Title: Fashion Sense and Dollar Wise

Link to Outcomes:

- **Number Relationships** Students will work to develop an understanding of the relationship between fractions, decimals, and percents, as well as application of ratios and proportions.
- **Statistics** Students will organize data and use the Consumer Price Index (CPI) to examine inflationary trends.
- **Problem Solving** Students will solve real-world consumer problems.
- **Reasoning** Students will demonstrate their ability to reason logically and build evidence to support a decision. They will utilize gathered advertisements to determine the best buy for their desired look.
- **Cooperation** Students will work together to collect and organize data, as well as determine their final outcome and best buy choice.
- **Communications** Students will read, discuss, and compare advertisements to determine the best buys.
- **Technology** Students will use calculators to perform conversions involving fractions, percents, and decimals.
- **Connections** Students will use Economics and Home Economics skills as they choose their outfits while considering lowest costs. This unit will also serve as an introduction to consumer projections regarding inflation.

Brief Overview:

Students will collect clothing advertisements from newspapers and magazines. Cooperatively the students will discuss the various ways used to express savings or sales. Discussion and example will assist students in understanding the conversion relationship between fractions, percents and decimals. Using various examples, students will work with advertisements to choose their favorite outfit while considering lowest costs. Ultimately, students will find the best look and the best price. Furthermore, students will hypothesize what effect inflation has had and will have on these prices. Then, using the CPI, students will test their hypothesis.

Grade/Level:

Grades 6-8

Duration/Length:

At least 3 to 5 class periods should be allocated for this lesson. Consideration should be given to the students' ability level and background.

Prerequisite Knowledge:

Students would have working knowledge of the following skills:

- Data collection
- Organizing data
- Fractional operations
- Decimal place value
- Decimal operations
- Percent concepts
- Basic ratio concepts

Objectives:

- Collect and organize data
- Discuss percent findings from newspapers and magazines
- Convert decimals, fractions and percents
- Determine the relationship between decimals, fractions and percents
- Determine the best buy and support your choice
- Create a visual representation of the findings
- Use the Consumer Price Index (CPI) to examine inflationary trends

Materials/Resources/Printed Materials:

- Calculators
- Student worksheets
- Magazine and newspaper advertisements showing examples of savings - fractions, percents, buy one get one free, etc.

Development/Procedures:

- Have students collect newspaper and magazine advertisements one week prior to the start of the lesson.

Day 1:

- Survey students' concept of percent and percent/decimal/fraction relationships using Student Worksheet 1. Then discuss findings.

- Present the process of converting decimals to fractions to percents and vice versa. Evaluate students' comprehension of concepts using Worksheet 2.

Day 2:

- Present prepared sales advertisements showing percent and fraction examples.

- Have students work cooperatively to determine the final cost of sale items. Students will fill in their calculations on Worksheet 3 Part A. (The use of a state Sales Tax Chart may be helpful.)

- Have students perform the calculations on Worksheet 3 Part B to determine which sale items would be their own best choice and explain their selection.

Day 3:

- Review and discuss Worksheet 3 - Part B.
- Have each cooperative group create and present an advertisement collage of their outfits.

Day 4:

- Begin by asking students how much they think the same outfit would have cost their parents in 1970.
- Explain that the Consumer Price Index (CPI) measures the average change in prices over a given period of time. The CPI in this unit will be based on prices of clothing bought for daily living.
- Demonstrate how to calculate what the price of an item would have been in 1970 using ratio and proportion (see Worksheet 4).
- Have each student predict what a $15 item in 1980 cost in 1993. Calculate and discuss. Have students complete Worksheet 4.

Evaluation:

The teacher observes the students as they work cooperatively to calculate their cost and conversions. Furthermore, the teacher will examine Worksheets 2, 3 and 4 to check for understanding of conversion concepts. The students will present their collage to the class and explain how they determined the best buy.

Extension/Follow Up:

Students will create a commercial for the "line of clothing" (group collage) that their group has created. Students must write a script for a 1-2 minute commercial (either live, audio, or video) and perform it.

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Worksheet 1

1. Which of the following are true?

_____ percent is a grade on a test

_____ percent can show a part of a whole

_____ percent is based on numbers from 0-100 (or more)

_____ percents can show sales or discounts

_____ percents are another way of showing fractions

_____ percents are another way of showing decimals

2. What is the symbol for percent? _____

3. List two places where we see percents in everyday life.

_____

_____

4. Which do you think would be the best buy?

_____ A $24.00 shirt on sale at Store A for 1/3 off

_____The same shirt on sale at Store B for $30.00, but they are having a buy one get one free special

_____The same shirt on sale at Store C for $20.00, but they are having a 10% off sale

5. Numerically represent the portion of the following vegetables that are green:

celery	carrots	radishes	string beans
sweet potatoes	onions	peas	spinach

Give your answer using:

fractions - _____

decimals - _____

percents - _____

Worksheet 2

Part A- Fill in the blanks:

Percent	Fraction	Decimal
45%		
	1/2	
		0.35
120%		
	3/4	
		0.28
80%		
	2/5	
		0.375

Part B

1. Which is the best buy?

_____ a $15.00 CD on sale at Store A for 1/3 off

_____ the same CD on sale at Store B for $30.00, but they are having a buy one get one free special

_____ the same CD on sale at Store C for $25.00, but they are having a 45% off sale

2. What percent of these numbers are divisible by 5? _____

65	32	120	345
900	18	240	35
15	100	81	60

Worksheet 3

Part A Calculate final cost of sale items and record in worksheet below.

Article of Clothing	Ad #1	Sales Tax	Final Cost	Ad #2	Sales Tax	Final Cost

Part B

For each final clothing choice, compute the amount of savings. Convert from fractions to decimals to percents or vice versa depending on ad used.

					Conversions		
Item	Original Cost	Sale	Discount	Final Cost	Percent	Decimal	Fraction

Worksheet 4

Economists use the Consumer Price Index (CPI) to measure the change in prices over time. For example, a loaf of bread that cost $ 0.33 in 1970 would cost $1.12 in 1993. This change in price is primarily due to inflation. (Remember, these are estimates only.)

You can determine costs as related to the CPI using ratio and proportion.

Suppose you know that a certain bicycle cost $115.00 in 1992 and would like to determine what its cost would likely have been in 1975:

$$\frac{\text{cost of a bicycle in 1992}}{\text{CPI 1992}} = \frac{\text{cost of a bicycle in 1975}}{\text{CPI 1975}} = \frac{\$115.00}{129.4} = \frac{x}{76.7}$$

$$129.4x = \$115.00 \times 76.7$$
$$129.4x = 8820.5$$
$$x = \$68.16$$

Use the chart provided to answer the questions below:

Consumer Price Index for Apparel Commodities

Source: Bureau of Labor Statistics, U.S. Dept. of Labor

Year	CPI
1970	63.3
1975	76.7
1980	92.9
1985	104
1990	122
1991	126.4
1992	129.4
1993	131

1. If a shirt cost $15.00 in 1975, what did it cost in 1992?	2. In 1993 a pair of sneakers cost $55.00, what did they approximately cost in 1990?
3. If your mother's bell bottom jeans cost $23.00 in 1970, what did they cost in 1993?	4. A baseball cap cost $2.50 in 1980. What did it cost in 1985?

Challenge: In question #4 what was the percent of increase in the price?